CLAIMS

What is claimed is:

1. A method of packaging a sensor device implantable in a living body, the method comprising:

(a) sealing an electrical conductor of the sensor device extending between proximal and distal ends in a non-conductive substrate;

(b) connecting an end of the electrical conductor to an external sensor on the sensor device;

(c) connecting a second end of the electrical conductor to a lead that is configured to connect to an implantable medical device;

(d) embedding the connection between the distal end of the electrical conductor and the external sensor in an insulative deposit of protective material; and

(e) encapsulating the external sensor, substrate, and insulative deposit of protective material in a hermetic material without interference with the lead.

2. A method of packaging as set forth in claim 1 and further comprising:

(f) intermediate steps (d) and (e), encapsulating the external sensor and the substrate in a layer of insulating material without interference with the lead.

3. A method of packaging as set forth in claim 2 wherein the substrate is composed of at least one of ceramic and glass.

4. A method of packaging as set forth in claim 1 wherein the external sensor is at least one of a temperature sensor and a pressure sensor.

5. A method of packaging as set forth in claim 1 wherein the pulse generator is a pacemaker.

6. A method of packaging as set forth in claim 1 wherein the pulse generator is a defibrillator.

7. A method of packaging as set forth in claim 1 wherein the hermetic material is at least one of titanium, gold, platinum, and carbon.

8. A method of packaging as set forth in claim 1 wherein the thickness of the thin film of hermetic material is in the range of about 10 nm to 0.1 mm.

9. A method of packaging as set forth in claim 2 wherein the insulating layer is parylene.

10. A method of packaging as set forth in claim 2 wherein the thickness of the layer of insulating material is in the range of about 5 nm to 0.5 mm.

11. A method of packaging as set forth in claim 2 wherein step (e) ensures the complete encapsulation of the layer of insulating material applied by step (f).

12. A method of packaging as set forth in claim 1 wherein step (c) includes the step of:

(f) inserting a pad of conductive material intermediate, and in electrical continuity with, the distal end of the lead and with the proximal end of the electrical conductor.

13. A sensor device implantable in a living body, the sensor device comprising:

an insulating substrate that defines a feedthrough region;

a sensor in contact with the insulating substrate;

an electrical conductor received in the feedthrough region;

a bond wire connected to the electrical conductor and to the sensor, wherein the bond wire is embedded in an insulative sheath;

a lead connected to the electrical conductor and configured for connection to an implantable medical device; and

wherein the sensor and the substrate are encapsulated in a thin film of hermetic material.

14. The implantable sensor device as set forth in claim 13 wherein the sensor and the substrate are encapsulated in a layer of insulating material.

15. The implantable sensor device as set forth in claim 14 wherein the substrate is composed of at least one of ceramic and glass.

16. The implantable sensor device as set forth in claim 13 wherein the sensor is at least one of a temperature sensor and a pressure sensor.

17. The implantable sensor device as set forth in claim 13 wherein the hermetic material is at least one of titanium, gold, platinum, and carbon.

18. The implantable sensor device as set forth in claim 13 wherein the thickness of the thin film of hermetic material is in the range of about 10 nm to 0.1 mm.

19. The implantable sensor device as set forth in claim 14 wherein the thickness of the layer of insulating material is in the range of about 5.0 nm to 0.5 mm.

20. The implantable sensor device as set forth in claim 13 and further comprising:

a pad of conductive material intermediate, and in electrical continuity with, the lead and with the electrical conductor.